

ABSTRACT

BACKGROUND:

Organophosphorous compound poisoning is a major public health hazard in developing countries. As early management and good intensive care often helps in saving the lives of these patients, it is important to stratify these patients according to the risk of developing complications and give special care to them. Various clinical as well as biochemical parameters have been proposed to predict the outcome of OP poisoning. This study was aimed at assessing the prognostic value of Peradeniya OP poisoning scale, serum pseudocholinesterase and serum potassium at the time of admission in predicting the severity and prognosis of OP poisoning.

MATERIALS AND METHODS:

It was a prospective and observational study of 50 patients admitted in our hospital with OP poisoning. Peradeniya OP poisoning scale score, serum pseudocholinesterase, and serum potassium were analysed at the time of admission and their prognostic values were used in assessing severity of OP poisoning which is predicted in terms of need for mechanical ventilation, total dose of atropine needed for treatment and clinical outcome.

RESULTS:

Male preponderance was noted with male: female ratio 2.57:1 . 46% of patients were agricultural labourers. Of the 50 patients in our study , 58% of the patients required ventilator support. 9 patients died resulting in a mortality rate of 18%. Intermediate syndrome was the most common cause of death. Ventilator support is needed in 5.6% of the patients with mild grade poisoning by POPS, while 100% of the patients with severe grade poisoning required ventilator support (p value 0.005). POPS scale grade was directly proportional to the dose of atropine used. There is statistically significant reduction in pseudo chE as the severity of poisoning increased in POPS. 10% of the patients with mild reduction in pseudo chE required ventilator support. But 100% of the patients with severe reduction needed ventilator support. As the pseudo chE level decreased, the dose of atropine needed for treatment increased proportionately. Mean serum potassium in ventilator requiring patients was 3.731 and in non ventilator patients was 4.014 indicating that low serum potassium at the admission increases the risk of respiratory failure.

CONCLUSION:

A high POPS score, low pseudo chE level and low serum potassium at the time of admission increases the risk of respiratory failure and need for ventilator support as well as increases dose of atropine needed for treatment and badly affects the clinical outcome. Assessment of these parameters thus helps in predicting the severity and prognosis of OP poisoning.

KEYWORDS: Organophosphorous compound poisoning, Peradeniya OP poisoning scale, Serum Pseudocholinesterase, Serum Potassium